

## **Spiders**

Spiders are widely distributed throughout the terrestrial world. Over 30,000 species have been described. Spiders are predatory and feed largely on insects, although small vertebrates may be captured by large species of spiders. All spiders use venom when they bite and kill their prey, but few have jaws sufficiently powerful to penetrate human skin; and even among these venoms are, with few exceptions, harmless.

Spiders have a characteristic appearance easily recognized by most people. They possess eight legs, which immediately separates them from insects, which have only six. Spiders lack wings and antennae, and their bodies have only two major regions, the cephalothorax and the abdomen. The cephalothorax contains the eye, fangs, and feeding structures externally, the venom glands internally and is the body part to which the legs attach. The abdomen contains the spinnerets externally and the heart, digestive organs, and silk glands internally. All spiders have a pair of jawlike structures, called chelicerae. At the end of each is a hollow, clawlike fang. Each fang has a small opening in the end through which venom is injected into the prey. Digestion of food is initiated outside the body. After the prey has been immobilized by a poisonous bite or wrapped with silk, digestive fluid from the gut of the spider is applied to the victim. Within a short time, the spider sucks in the digestive fluid and the predigested body of the prey. Spiders are also well known for their ability to produce silk. They all possess spinning organs called spinnerets, which they use to form silk into egg sacs, draglines when walking or hunting, and for building snares or webs to trap prey.

Although many people suffer from arachnophobia, contrary to popular perception, spiders can be extremely beneficial to human society. They often play a critical role in the ecosystem by feeding on disease vectors and crop pests, and are therefore effective biological control agents. However, they are undesirable to most homeowners when indoors, and the unsightly webbing spiders use to catch insect prey usually outweighs this beneficial behavior. Spiders that common in household are usually associated with moisture. They spin webs in corners, cracks, or darkened areas. The web is unsightly but causes no real harm. Control of spiders indoors can be done by vacuuming up the spiders and their webs and egg sacs or by applying household insecticides. Removing clutter and taking other sanitation steps directed at conditions favoring spiders indoor can reduce spider problems

*Euophrys erratica*



*Myrmarachne formosana*



## **Prevention and Control of Wasps**

Wasps are members of the order Hymenoptera. The scientific name of the order is derived from the Greek hymen (membrane) and pteron (wing). They come in many different types and sizes. Insects known as wasps consist of sawflies, parasitic wasps and the stinging wasps, which may cause nuisance pests problem to human beings. There are about 75,000 species of wasps recorded globally, most of them are parasitic. At least 30 species are commonly found locally.

For social wasps, the adult wasps are of three forms: reproductive male, reproductive female and sterile female worker. Queens are reproductive females who found the nests and lay the eggs. All female wasps, sterile or reproductive, are equipped with a sting at the end of the abdomen used for defence or predation. The males are unarmed. Ovipositors of female wasps modified as sting can inject venom into the body of human being or other animals. Unlike bees, wasps are capable for stinging multiple times and the stings are of health concern because they can cause severe allergic reactions that can result into anaphylactic shock and death.

The social wasps usually build papery nests as their shelter and nursery ground and some of the wasps, such as yellow jackets, hornets and paper wasps, use materials like “paper” fibers collected from dry wood and tree bark and mix them with saliva to build or fix their nests. In Hong Kong, wasps nest usually last for a few months and not to be used again by any other wasps next year. Empty nests are very often found high up the tree when leaves fall in winter and disintegrate gradually resulting from lack of maintenance by the worker wasps.

The most commonly found species that cause nuisance to human activity locally are *Vespa bicolor* (黑盾胡蜂), *Vespa affinis* (黃腰胡蜂), *Vespa velutina* (墨胸胡蜂) and *Polistes olivaceous* (果馬蜂).

For preventing sting by wasps, some precautions could be taken to reduce the chance of being stung by wasps.

- a. Do not disturb wasp and more importantly, wasp nest. Any disturbance may provoke stinging.
- b. Do not leave food and drink uncovered, especially ripe fruit and soft drinks. Sugary substances may attract many wasps.
- c. Keep refuse in tightly sealed containers.
- d. Avoid walking barefoot on grassy field.

- e. Avoid getting close to wasp nests.
- f. Avoid using perfume or scented soaps, and avoid wearing brightly coloured or patterned clothing for outdoor activities as they attract insects.
- g. Avoid being stung on the head, mouth and throat by, for instance, pulling a portion of your clothes over your head.
- h. Remain calm and move slowly away from wasp when being approached by it. Be sure that you can see where you are going. The insect will eventually leave of its own accord.
- i. Seek medical treatment after being stung by wasp.

Thinning of trees and turning the top layer of soil in flowerbeds in your premises regularly will discourage wasps from building nests on the trees or in the soil. Planting of vegetation with non-juicy fruits will also reduce the attraction of wasps to your premises. Not leaving sugary food and drink uncovered in open area will avoid attracting wasps. Regular inspection of the garden and open areas of your premises would facilitate early detection of wasps' nest. It is usually easy to destroy the nests at their early stage when they contain only a few wasps.

We should not kill wasps purposely unless we could not evade the harms or threats posed by the insect. Destruction of wasp nest requires professional knowledge and experience. Inappropriate procedures and improper protective clothing may lead to stinging by wasps. Pest control operators should be invited for conducting wasp disinfestations work.



*Vespa affinis* (黃腰胡蜂)



*Vespa bicolor* 黑盾胡蜂



*Vespa velutina* (墨胸胡蜂)



*Polistes olivaceous* (果馬蜂)